

## EAST Search History

| Ref # | Hits | Search Query   | DBs      | Default Operator | Plurals | Time Stamp       |
|-------|------|--|----------|------------------|---------|------------------|
| L7    | 39   | ((LED or LEDs or (L E D) or (light (emitting or producing or generating or radiating) (diode or diodes or device or devices or element or elements or semiconductor or (semi conductor) or (circuit element)))) and (housing or housin or housed or casing or casin or case or shell or container or box or boxes or enclosure or enclosures or cover or covers) and (refractor or refractors or lens or lenses or ((optical or translucent or translucent or transparent or (optically active)) (element or member or component or device))) and (reflector or reflectors or mirror or mirrors or (reflective (member or members or plane or planes or surface or surfaces or element or elements or plate or plates))) and (heat (sink or ((extracting or conducting or dissipating or transporting or radiating) (fin or protrusion or projection or element or member or spike or tubes or fingers or portion or pillars or plate)) or plate))).clm. | US-PGPUB | ADJ              | ON      | 2006/10/20 13:28 |

## EAST Search History

| Ref # | Hits | Search Query            | DBs                                       | Default Operator | Plurals | Time Stamp       |
|-------|------|-------------------------|---|------------------|---------|------------------|
| L1    | 2840 | (362/294,300,373).CCLS. | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR               | OFF     | 2006/10/20 13:24 |
| L2    | 487  | (362/494).CCLS.         | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR               | OFF     | 2006/10/20 13:24 |
| L3    | 3    | 1 and 2                 | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | ADJ              | ON      | 2006/10/20 13:25 |
| L4    | 1978 | (362/800).CCLS.         | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR               | OFF     | 2006/10/20 13:25 |
| L5    | 26   | 2 and 4                 | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | ADJ              | ON      | 2006/10/20 13:25 |
| L6    | 27   | 3 or 5                  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | ADJ              | ON      | 2006/10/20 13:25 |

## EAST Search History

|    |      |   |   |     |     |                  |
|----|------|---|---|-----|-----|------------------|
| L7 | 39   | ((LED or LEDs or (L E D) or (light (emitting or producing or generating or radiating) (diode or diodes or device or devices or element or elements or semiconductor or (semi conductor) or (circuit element)))) and (housing or housin or housed or casing or casin or case or shell or container or box or boxes or enclosure or enclosures or cover or covers) and (refractor or refractors or lens or lenses or ((optical or translucent or translucent or transparent or (optically active)) (element or member or component or device))) and (reflector or reflectors or mirror or mirrors or (reflective (member or members or plane or planes or surface or surfaces or element or elements or plate or plates))) and (heat (sink or ((extracting or conducting or dissipating or transporting or radiating) (fin or protrusion or projection or element or member or spike or tubes or fingers or portion or pillars or plate)) or plate))) .clm. | US-PGPUB                                  | ADJ | ON  | 2006/10/20 13:28 |
| L8 | 340  | (362/300).CCLS.   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR  | OFF | 2006/10/20 13:29 |
| S1 | 1169 | (362/800).CCLS.   | USPAT;<br>USOCR                           | OR  | OFF | 2006/04/21 11:45 |
| S2 | 10   | ((362/800).CCLS.) and ((vehicle or auto or car or automobile) and (high adj intensity) and (heat adj sink))   | USPAT                                     | OR  | OFF | 2004/09/03 14:56 |
| S3 | 13   | ("3474381"   "4124881"   "4654629"   "4680678"   "4893223"   "4929866"   "4977487"   "5006971"   "5084804"   "5101326"   "5162696"   "5319531"   "5436809").PN.   | USPAT                                     | OR  | OFF | 2004/09/03 14:52 |
| S4 | 38   | "5567036".URPN.   | USPAT                                     | OR  | OFF | 2004/09/03 14:53 |
| S5 | 612  | (362/488,494,545).CCLS.   | USPAT;<br>USOCR                           | OR  | OFF | 2004/09/03 14:57 |
| S6 | 136  | ((362/800).CCLS.) and ((362/488,494,545).CCLS.)   | USPAT                                     | OR  | OFF | 2004/09/03 14:57 |

## EAST Search History

|     |      |   |                 |    |     |                  |
|-----|------|---|-----------------|----|-----|------------------|
| S7  | 21   | ("4271408"   "4293847"   "4632798"   "4654629"   "4729076"   "4733335"   "4774434"   "4826896"   "4851972"   "4929866"   "4935665"   "4951179"   "5038255"   "5062027"   "5162696"   "5241457"   "5268828"   "5278432"   "5278731"   "5313729"   "5345705").PN. | USPAT           | OR | OFF | 2004/09/03 15:18 |
| S8  | 21   | ("4271408"   "4293847"   "4632798"   "4654629"   "4729076"   "4733335"   "4774434"   "4826896"   "4851972"   "4929866"   "4935665"   "4951179"   "5038255"   "5062027"   "5162696"   "5241457"   "5268828"   "5278432"   "5278731"   "5313729"   "5345705").PN. | USPAT           | OR | OFF | 2004/09/03 15:19 |
| S9  | 0    | ((362/800).CCLS.) and (chip and refelctor and (heat adj sink))  | USPAT           | OR | OFF | 2004/09/06 15:31 |
| S10 | 21   | ((362/800).CCLS.) and (chip and reflector and (heat adj sink))  | USPAT           | OR | OFF | 2004/09/06 15:31 |
| S11 | 84   | ((362/800).CCLS.) and (high adj power)  | USPAT           | OR | OFF | 2004/09/06 15:32 |
| S12 | 0    | ((362/800).CCLS.) and (refelctor or refelctive)   | USPAT           | OR | OFF | 2004/09/06 15:33 |
| S13 | 471  | ((362/800).CCLS.) and (reflector or reflective)   | USPAT           | OR | OFF | 2004/09/06 15:33 |
| S14 | 1169 | (362/800).CCLS.   | USPAT;<br>USOCR | OR | OFF | 2004/09/06 16:53 |
| S15 | 23   | "3821590".URPN.   | USPAT           | OR | OFF | 2004/09/06 15:36 |
| S16 | 4    | ("3510732"   "3860847"   "4035681"   "4070568").PN.   | USPAT           | OR | OFF | 2004/09/06 15:38 |
| S17 | 9    | ("3354316"   "3400311"   "3404319"   "3419762"   "3510732"   "3528169"   "3676668"   "3696263"   "3739241").PN.   | USPAT           | OR | OFF | 2004/09/06 15:39 |
| S18 | 22   | "3510732".URPN.   | USPAT           | OR | OFF | 2004/09/06 15:40 |
| S19 | 1    | ("3458779").PN.   | USPAT;<br>USOCR | OR | OFF | 2004/09/06 16:52 |
| S20 | 211  | ((362/800).CCLS.) and aluminum  | USPAT           | OR | OFF | 2004/09/06 16:53 |
| S21 | 1265 | (362/800).CCLS.   | USPAT;<br>USOCR | OR | OFF | 2005/03/28 16:37 |
| S22 | 148  | S21 and ray   | USPAT           | OR | OFF | 2005/03/28 16:37 |
| S23 | 3    | S22 and Ray.inv.  | USPAT           | OR | OFF | 2005/03/28 16:37 |

## EAST Search History

|     |      |   |                                 |     |     |                  |
|-----|------|---|---------------------------------|-----|-----|------------------|
| S24 | 18   | "054,633"   | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2005/04/22 12:05 |
| S25 | 1300 | (362/800).CCLS.   | USPAT;<br>USOCR                 | OR  | OFF | 2005/06/01 08:28 |
| S26 | 0    | S25 and (stepping near current)   | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2005/06/01 08:28 |
| S27 | 1    | S25 and (step near current)   | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2005/06/01 08:29 |
| S28 | 60   | S25 and (transformer)   | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2005/06/01 08:29 |
| S29 | 10   | S25 and (step adj up)   | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2005/06/01 08:34 |
| S30 | 0    | S25 and ((step adj up) near current)  | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2005/06/01 08:29 |
| S31 | 256  | (step adj up) near current  | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2005/06/01 08:34 |
| S32 | 37   | S31 and (LED or (light adj emitting adj diode))   | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2005/06/01 08:34 |
| S33 | 127  | step down dc-dc converter   | US-PGPUB;<br>USPAT;<br>EPO; JPO | ADJ | ON  | 2005/06/01 10:09 |
| S34 | 2    | S33 and (current near (step up))  | US-PGPUB;<br>USPAT;<br>EPO; JPO | ADJ | ON  | 2005/06/01 10:08 |
| S35 | 21   | ("4172260"   "4218647"   "4408267"   "4430608"   "4450384"   "4575668"   "4672228"   "4908856"   "4914356"   "4920302"   "4988942"   "5036253"   "5041767"   "5144202"   "5148158"   "5150014"   "5154504"   "5155415"   "5164638"   "5182503"   "5194803").PN. | US-PGPUB;<br>USPAT;<br>USOCR    | OR  | OFF | 2005/06/01 10:14 |
| S36 | 66   | vehicle and (LED or (light adj emitting adj diode)) and (voltage and DC and conversion and (step-down or (step adj down)))  | US-PGPUB;<br>USPAT;<br>USOCR    | OR  | OFF | 2005/06/01 10:15 |
| S37 | 8    | S36 and (stepup or (step adj up))   | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2005/06/01 10:17 |

## EAST Search History

|     |      |   |                                 |     |     |                  |
|-----|------|---|---------------------------------|-----|-----|------------------|
| S38 | 27   | S36 and ((high of higher) adj current)  | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2005/06/01 10:17 |
| S39 | 1    | ("6152590").PN.   | USPAT;<br>USOCR                 | OR  | OFF | 2005/06/01 10:50 |
| S40 | 1    | ("6317248").PN.   | USPAT;<br>USOCR                 | OR  | OFF | 2005/06/01 14:07 |
| S41 | 19   | ("4211955"   "5160200"   "5160201"   "5567036"   "5806965"   "5921660"   "5929788"   "5947588"   "6220722"   "6234648"   "6371636"   "D385051"   "D404506"   "D405201"   "D434510").PN. OR ("6598996").URPN.  | US-PGPUB;<br>USPAT;<br>USOCR    | ADJ | ON  | 2006/03/05 13:29 |
| S43 | 20   | ("4211955"   "5160200"   "5160201"   "5567036"   "5806965"   "5921660"   "5929788"   "5947588"   "6220722"   "6234648"   "6371636"   "D385051"   "D404506"   "D405201"   "D434510").PN. OR ("6598996").URPN.  | US-PGPUB;<br>USPAT;<br>USOCR    | ADJ | ON  | 2006/04/21 11:54 |
| S44 | 1427 | (362/800).CCLS.   | USPAT;<br>USOCR                 | OR  | OFF | 2006/04/21 12:06 |
| S45 | 16   | ((362/800).CCLS.) and ((vehicle or auto or car or automobile) and (high adj intensity) and (heat adj sink))   | USPAT                           | OR  | OFF | 2006/04/21 12:06 |
| S46 | 13   | ("3474381"   "4124881"   "4654629"   "4680678"   "4893223"   "4929866"   "4977487"   "5006971"   "5084804"   "5101326"   "5162696"   "5319531"   "5436809").PN.   | USPAT                           | OR  | OFF | 2006/04/21 12:06 |
| S47 | 52   | "5567036".URPN.   | USPAT                           | OR  | OFF | 2006/04/21 12:06 |
| S48 | 840  | (362/488,494,545).CCLS.   | USPAT;<br>USOCR                 | OR  | OFF | 2006/04/21 12:06 |
| S49 | 176  | ((362/800).CCLS.) and ((362/488,494,545).CCLS.)   | USPAT                           | OR  | OFF | 2006/04/21 12:06 |
| S50 | 21   | ("4271408"   "4293847"   "4632798"   "4654629"   "4729076"   "4733335"   "4774434"   "4826896"   "4851972"   "4929866"   "4935665"   "4951179"   "5038255"   "5062027"   "5162696"   "5241457"   "5268828"   "5278432"   "5278731"   "5313729"   "5345705").PN. | USPAT                           | OR  | OFF | 2006/04/21 12:06 |

## EAST Search History

|     |      |   |                                 |    |     |                  |
|-----|------|---|---------------------------------|----|-----|------------------|
| S51 | 21   | ("4271408"   "4293847"   "4632798"   "4654629"   "4729076"   "4733335"   "4774434"   "4826896"   "4851972"   "4929866"   "4935665"   "4951179"   "5038255"   "5062027"   "5162696"   "5241457"   "5268828"   "5278432"   "5278731"   "5313729"   "5345705").PN. | USPAT                           | OR | OFF | 2006/04/21 12:06 |
| S52 | 0    | ((362/800).CCLS.) and (chip and refelctor and (heat adj sink))  | USPAT                           | OR | OFF | 2006/04/21 12:06 |
| S53 | 39   | ((362/800).CCLS.) and (chip and reflector and (heat adj sink))  | USPAT                           | OR | OFF | 2006/04/21 12:06 |
| S54 | 112  | ((362/800).CCLS.) and (high adj power)  | USPAT                           | OR | OFF | 2006/04/21 12:06 |
| S55 | 0    | ((362/800).CCLS.) and (refelctor or refelctive)   | USPAT                           | OR | OFF | 2006/04/21 12:06 |
| S56 | 595  | ((362/800).CCLS.) and (reflector or reflective)   | USPAT                           | OR | OFF | 2006/04/21 12:06 |
| S57 | 1427 | (362/800).CCLS.   | USPAT;<br>USOCR                 | OR | OFF | 2006/04/21 12:06 |
| S58 | 25   | "3821590".URPN.   | USPAT                           | OR | OFF | 2006/04/21 12:06 |
| S59 | 4    | ("3510732"   "3860847"   "4035681"   "4070568").PN.   | USPAT                           | OR | OFF | 2006/04/21 12:06 |
| S60 | 9    | ("3354316"   "3400311"   "3404319"   "3419762"   "3510732"   "3528169"   "3676668"   "3696263"   "3739241").PN.   | USPAT                           | OR | OFF | 2006/04/21 12:06 |
| S61 | 25   | "3510732".URPN.   | USPAT                           | OR | OFF | 2006/04/21 12:06 |
| S62 | 2    | ("3458779").PN.   | USPAT;<br>USOCR                 | OR | OFF | 2006/04/21 12:06 |
| S63 | 284  | ((362/800).CCLS.) and aluminum  | USPAT                           | OR | OFF | 2006/04/21 12:06 |
| S64 | 1427 | (362/800).CCLS.   | USPAT;<br>USOCR                 | OR | OFF | 2006/04/21 12:06 |
| S65 | 181  | S64 and ray   | USPAT                           | OR | OFF | 2006/04/21 12:06 |
| S66 | 4    | S65 and Ray.inv.  | USPAT                           | OR | OFF | 2006/04/21 12:06 |
| S67 | 35   | "054,633"   | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR | OFF | 2006/04/21 12:06 |
| S68 | 1427 | (362/800).CCLS.   | USPAT;<br>USOCR                 | OR | OFF | 2006/04/21 12:06 |
| S69 | 0    | S68 and (stepping near current)   | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR | OFF | 2006/04/21 12:06 |



## EAST Search History

|     |     |   |                                 |     |     |                  |
|-----|-----|---|---------------------------------|-----|-----|------------------|
| S70 | 1   | S68 and (step near current)   | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2006/04/21 12:06 |
| S71 | 72  | S68 and (transformer)   | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2006/04/21 12:06 |
| S72 | 0   | S68 and ((step adj up) near current)  | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2006/04/21 12:06 |
| S73 | 13  | S68 and (step adj up)   | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2006/04/21 12:06 |
| S74 | 282 | (step adj up) near current  | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2006/04/21 12:06 |
| S75 | 43  | S74 and (LED or (light adj emitting adj diode))   | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2006/04/21 12:06 |
| S76 | 164 | step down dc-dc converter   | US-PGPUB;<br>USPAT;<br>EPO; JPO | ADJ | ON  | 2006/04/21 12:06 |
| S77 | 3   | S76 and (current near (step up))  | US-PGPUB;<br>USPAT;<br>EPO; JPO | ADJ | ON  | 2006/04/21 12:06 |
| S78 | 164 | step down dc-dc converter   | US-PGPUB;<br>USPAT;<br>EPO; JPO | ADJ | ON  | 2006/04/21 12:06 |
| S79 | 21  | ("4172260"   "4218647"   "4408267"   "4430608"   "4450384"   "4575668"   "4672228"   "4908856"   "4914356"   "4920302"   "4988942"   "5036253"   "5041767"   "5144202"   "5148158"   "5150014"   "5154504"   "5155415"   "5164638"   "5182503"   "5194803").PN. | US-PGPUB;<br>USPAT;<br>USOCR    | OR  | OFF | 2006/04/21 12:06 |
| S80 | 84  | vehicle and (LED or (light adj emitting adj diode)) and (voltage and DC and conversion and (step-down or (step adj down)))  | US-PGPUB;<br>USPAT;<br>USOCR    | OR  | OFF | 2006/04/21 12:06 |
| S81 | 18  | S80 and (stepup or (step adj up))   | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2006/04/21 12:06 |
| S82 | 40  | S80 and ((high of higher) adj current)  | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2006/04/21 12:06 |
| S83 | 1   | ("6152590").PN.   | USPAT;<br>USOCR                 | OR  | OFF | 2006/04/21 12:06 |



## EAST Search History

|     |      |  |   |     |     |                  |
|-----|------|--|---|-----|-----|------------------|
| S84 | 1    | ("6317248").PN.  | USPAT;<br>USOCR                           | OR  | OFF | 2006/04/21 12:06 |
| S85 | 20   | ("4211955"   "5160200"  <br>"5160201"   "5567036"   "5806965"<br>  "5921660"   "5929788"  <br>"5947588"   "6220722"   "6234648"<br>  "6371636"   "D385051"  <br>"D404506"   "D405201"  <br>"D434510").PN. OR ("6598996").<br>URPN. | US-PGPUB;<br>USPAT;<br>USOCR              | ADJ | ON  | 2006/04/21 12:06 |
| S86 | 20   | ("4211955"   "5160200"  <br>"5160201"   "5567036"   "5806965"<br>  "5921660"   "5929788"  <br>"5947588"   "6220722"   "6234648"<br>  "6371636"   "D385051"  <br>"D404506"   "D405201"  <br>"D434510").PN. OR ("6598996").<br>URPN. | US-PGPUB;<br>USPAT;<br>USOCR              | ADJ | ON  | 2006/04/21 12:06 |
| S87 | 1489 | (362/800).CCLS.  | USPAT;<br>USOCR                           | OR  | OFF | 2006/09/05 12:07 |
| S89 | 665  | (362/545).CCLS.  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR  | OFF | 2006/10/20 09:53 |
| S90 | 1510 | (362/800).CCLS.  | USPAT;<br>USOCR                           | OR  | OFF | 2006/10/20 09:32 |
| S91 | 22   | ((362/800).CCLS.) and ((vehicle or<br>auto or car or automobile) and<br>(high adj intensity) and (heat adj<br>sink))   | USPAT                                     | OR  | OFF | 2006/10/20 09:32 |
| S92 | 13   | ("3474381"   "4124881"  <br>"4654629"   "4680678"   "4893223"<br>  "4929866"   "4977487"  <br>"5006971"   "5084804"   "5101326"<br>  "5162696"   "5319531"  <br>"5436809").PN.   | USPAT                                     | OR  | OFF | 2006/10/20 09:32 |
| S93 | 60   | "5567036".URPN.  | USPAT                                     | OR  | OFF | 2006/10/20 09:32 |
| S94 | 906  | (362/488,494,545).CCLS.  | USPAT;<br>USOCR                           | OR  | OFF | 2006/10/20 09:32 |
| S95 | 193  | ((362/800).CCLS.) and ((362/488,<br>494,545).CCLS.)  | USPAT                                     | OR  | OFF | 2006/10/20 09:32 |

## EAST Search History

|          |      |   |                 |    |     |                  |
|----------|------|---|-----------------|----|-----|------------------|
| S96      | 21   | ("4271408"   "4293847"   "4632798"   "4654629"   "4729076"   "4733335"   "4774434"   "4826896"   "4851972"   "4929866"   "4935665"   "4951179"   "5038255"   "5062027"   "5162696"   "5241457"   "5268828"   "5278432"   "5278731"   "5313729"   "5345705").PN. | USPAT           | OR | OFF | 2006/10/20 09:32 |
| S97      | 21   | ("4271408"   "4293847"   "4632798"   "4654629"   "4729076"   "4733335"   "4774434"   "4826896"   "4851972"   "4929866"   "4935665"   "4951179"   "5038255"   "5062027"   "5162696"   "5241457"   "5268828"   "5278432"   "5278731"   "5313729"   "5345705").PN. | USPAT           | OR | OFF | 2006/10/20 09:32 |
| S98      | 0    | ((362/800).CCLS.) and (chip and refelctor and (heat adj sink))  | USPAT           | OR | OFF | 2006/10/20 09:32 |
| S99      | 46   | ((362/800).CCLS.) and (chip and reflector and (heat adj sink))  | USPAT           | OR | OFF | 2006/10/20 09:32 |
| S10<br>0 | 121  | ((362/800).CCLS.) and (high adj power)  | USPAT           | OR | OFF | 2006/10/20 09:32 |
| S10<br>1 | 0    | ((362/800).CCLS.) and (refelctor or refelctive)   | USPAT           | OR | OFF | 2006/10/20 09:32 |
| S10<br>2 | 640  | ((362/800).CCLS.) and (reflector or reflective)   | USPAT           | OR | OFF | 2006/10/20 09:32 |
| S10<br>3 | 26   | "3821590".URPN.   | USPAT           | OR | OFF | 2006/10/20 09:32 |
| S10<br>4 | 4    | ("3510732"   "3860847"   "4035681"   "4070568").PN.   | USPAT           | OR | OFF | 2006/10/20 09:32 |
| S10<br>5 | 9    | ("3354316"   "3400311"   "3404319"   "3419762"   "3510732"   "3528169"   "3676668"   "3696263"   "3739241").PN.   | USPAT           | OR | OFF | 2006/10/20 09:32 |
| S10<br>6 | 28   | "3510732".URPN.   | USPAT           | OR | OFF | 2006/10/20 09:32 |
| S10<br>7 | 2    | ("3458779").PN.   | USPAT;<br>USOCR | OR | OFF | 2006/10/20 09:32 |
| S10<br>8 | 304  | ((362/800).CCLS.) and aluminum  | USPAT           | OR | OFF | 2006/10/20 09:32 |
| S10<br>9 | 1510 | (362/800).CCLS.   | USPAT;<br>USOCR | OR | OFF | 2006/10/20 09:32 |
| S11<br>0 | 190  | S109 and ray  | USPAT           | OR | OFF | 2006/10/20 09:32 |

## EAST Search History

|          |      |   |                                 |     |     |                  |
|----------|------|---|---------------------------------|-----|-----|------------------|
| S11<br>1 | 4    | S110 and Ray.inv.   | USPAT                           | OR  | OFF | 2006/10/20 09:32 |
| S11<br>2 | 47   | "054,633"   | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2006/10/20 09:32 |
| S11<br>3 | 1510 | (362/800).CCLS.   | USPAT;<br>USOCR                 | OR  | OFF | 2006/10/20 09:32 |
| S11<br>4 | 0    | S113 and (stepping near current)  | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2006/10/20 09:32 |
| S11<br>5 | 2    | S113 and (step near current)  | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2006/10/20 09:32 |
| S11<br>6 | 81   | S113 and (transformer)  | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2006/10/20 09:32 |
| S11<br>7 | 0    | S113 and ((step adj up) near current)   | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2006/10/20 09:32 |
| S11<br>8 | 16   | S113 and (step adj up)  | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2006/10/20 09:32 |
| S11<br>9 | 297  | (step adj up) near current  | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2006/10/20 09:32 |
| S12<br>0 | 44   | S119 and (LED or (light adj emitting adj diode))  | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2006/10/20 09:32 |
| S12<br>1 | 192  | step down dc-dc converter   | US-PGPUB;<br>USPAT;<br>EPO; JPO | ADJ | ON  | 2006/10/20 09:32 |
| S12<br>2 | 3    | S121 and (current near (step up))   | US-PGPUB;<br>USPAT;<br>EPO; JPO | ADJ | ON  | 2006/10/20 09:32 |
| S12<br>3 | 21   | ("4172260"   "4218647"   "4408267"   "4430608"   "4450384"   "4575668"   "4672228"   "4908856"   "4914356"   "4920302"   "4988942"   "5036253"   "5041767"   "5144202"   "5148158"   "5150014"   "5154504"   "5155415"   "5164638"   "5182503"   "5194803").PN. | US-PGPUB;<br>USPAT;<br>USOCR    | OR  | OFF | 2006/10/20 09:32 |
| S12<br>4 | 88   | vehicle and (LED or (light adj emitting adj diode)) and (voltage and DC and conversion and (step-down or (step adj down)))  | US-PGPUB;<br>USPAT;<br>USOCR    | OR  | OFF | 2006/10/20 09:32 |

## EAST Search History

|          |      |  |                                 |     |     |                  |
|----------|------|--|---------------------------------|-----|-----|------------------|
| S12<br>5 | 20   | S124 and (stepup or (step adj up))   | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2006/10/20 09:32 |
| S12<br>6 | 42   | S124 and ((high of higher) adj<br>current)   | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2006/10/20 09:32 |
| S12<br>7 | 1    | ("6152590").PN.  | USPAT;<br>USOCR                 | OR  | OFF | 2006/10/20 09:32 |
| S12<br>8 | 1    | ("6317248").PN.  | USPAT;<br>USOCR                 | OR  | OFF | 2006/10/20 09:32 |
| S12<br>9 | 23   | ("4211955"   "5160200"  <br>"5160201"   "5567036"   "5806965"<br>  "5921660"   "5929788"  <br>"5947588"   "6220722"   "6234648"<br>  "6371636"   "D385051"  <br>"D404506"   "D405201"  <br>"D434510").PN. OR ("6598996").<br>URPN. | US-PGPUB;<br>USPAT;<br>USOCR    | ADJ | ON  | 2006/10/20 09:32 |
| S13<br>0 | 23   | ("4211955"   "5160200"  <br>"5160201"   "5567036"   "5806965"<br>  "5921660"   "5929788"  <br>"5947588"   "6220722"   "6234648"<br>  "6371636"   "D385051"  <br>"D404506"   "D405201"  <br>"D434510").PN. OR ("6598996").<br>URPN. | US-PGPUB;<br>USPAT;<br>USOCR    | ADJ | ON  | 2006/10/20 09:32 |
| S13<br>1 | 1510 | (362/800).CCLS.  | USPAT;<br>USOCR                 | OR  | OFF | 2006/10/20 09:32 |
| S13<br>2 | 906  | (362/488,494,545).CCLS.  | USPAT;<br>USOCR                 | OR  | OFF | 2006/10/20 09:32 |
| S13<br>3 | 0    | ((362/800).CCLS.) and (chip and<br>refelctor and (heat adj sink))  | USPAT                           | OR  | OFF | 2006/10/20 09:32 |
| S13<br>4 | 0    | ((362/800).CCLS.) and (refelctor or<br>refelctive)   | USPAT                           | OR  | OFF | 2006/10/20 09:32 |
| S13<br>5 | 640  | ((362/800).CCLS.) and (reflector or<br>reflective)   | USPAT                           | OR  | OFF | 2006/10/20 09:32 |
| S13<br>6 | 1510 | (362/800).CCLS.  | USPAT;<br>USOCR                 | OR  | OFF | 2006/10/20 09:32 |
| S13<br>7 | 190  | S136 and ray   | USPAT                           | OR  | OFF | 2006/10/20 09:32 |
| S13<br>8 | 1510 | (362/800).CCLS.  | USPAT;<br>USOCR                 | OR  | OFF | 2006/10/20 09:32 |
| S13<br>9 | 0    | S138 and (stepping near current)   | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2006/10/20 09:32 |

## EAST Search History

|          |     |   |                                 |     |     |                  |
|----------|-----|---|---------------------------------|-----|-----|------------------|
| S14<br>0 | 81  | S138 and (transformer)  | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2006/10/20 09:32 |
| S14<br>1 | 0   | S138 and ((step adj up) near<br>current)  | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2006/10/20 09:32 |
| S14<br>2 | 297 | (step adj up) near current  | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2006/10/20 09:32 |
| S14<br>3 | 192 | step down dc-dc converter   | US-PGPUB;<br>USPAT;<br>EPO; JPO | ADJ | ON  | 2006/10/20 09:32 |
| S14<br>4 | 88  | vehicle and (LED or (light adj<br>emitting adj diode)) and (voltage<br>and DC and conversion and<br>(step-down or (step adj down)))   | US-PGPUB;<br>USPAT;<br>USOCR    | OR  | OFF | 2006/10/20 09:32 |
| S14<br>5 | 2   | S138 and (step near current)  | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2006/10/20 09:32 |
| S14<br>6 | 1   | ("6152590").PN.   | USPAT;<br>USOCR                 | OR  | OFF | 2006/10/20 09:32 |
| S14<br>7 | 1   | ("6317248").PN.   | USPAT;<br>USOCR                 | OR  | OFF | 2006/10/20 09:32 |
| S14<br>8 | 22  | ((362/800).CCLS.) and ((vehicle or<br>auto or car or automobile) and<br>(high adj intensity) and (heat adj<br>sink))  | USPAT                           | OR  | OFF | 2006/10/20 09:32 |
| S14<br>9 | 13  | ("3474381"   "4124881"  <br>"4654629"   "4680678"   "4893223"<br>  "4929866"   "4977487"  <br>"5006971"   "5084804"   "5101326"<br>  "5162696"   "5319531"  <br>"5436809").PN.  | USPAT                           | OR  | OFF | 2006/10/20 09:32 |
| S15<br>0 | 60  | "5567036".URPN.   | USPAT                           | OR  | OFF | 2006/10/20 09:32 |
| S15<br>1 | 21  | ("4271408"   "4293847"  <br>"4632798"   "4654629"   "4729076"<br>  "4733335"   "4774434"  <br>"4826896"   "4851972"   "4929866"<br>  "4935665"   "4951179"  <br>"5038255"   "5062027"   "5162696"<br>  "5241457"   "5268828"  <br>"5278432"   "5278731"   "5313729"<br>  "5345705").PN. | USPAT                           | OR  | OFF | 2006/10/20 09:32 |

## EAST Search History

|          |    |   |                                 |     |     |                  |
|----------|----|---|---------------------------------|-----|-----|------------------|
| S15<br>2 | 21 | ("4271408"   "4293847"  <br>"4632798"   "4654629"   "4729076"<br>  "4733335"   "4774434"  <br>"4826896"   "4851972"   "4929866"<br>  "4935665"   "4951179"  <br>"5038255"   "5062027"   "5162696"<br>  "5241457"   "5268828"  <br>"5278432"   "5278731"   "5313729"<br>  "5345705").PN. | USPAT                           | OR  | OFF | 2006/10/20 09:32 |
| S15<br>3 | 46 | ((362/800).CCLS.) and (chip and<br>reflector and (heat adj sink))   | USPAT                           | OR  | OFF | 2006/10/20 09:32 |
| S15<br>4 | 26 | "3821590".URPN.   | USPAT                           | OR  | OFF | 2006/10/20 09:32 |
| S15<br>5 | 4  | ("3510732"   "3860847"  <br>"4035681"   "4070568").PN.  | USPAT                           | OR  | OFF | 2006/10/20 09:32 |
| S15<br>6 | 9  | ("3354316"   "3400311"  <br>"3404319"   "3419762"   "3510732"<br>  "3528169"   "3676668"  <br>"3696263"   "3739241").PN.  | USPAT                           | OR  | OFF | 2006/10/20 09:32 |
| S15<br>7 | 28 | "3510732".URPN.   | USPAT                           | OR  | OFF | 2006/10/20 09:32 |
| S15<br>8 | 2  | ("3458779").PN.   | USPAT;<br>USOCR                 | OR  | OFF | 2006/10/20 09:32 |
| S15<br>9 | 4  | S137 and Ray.inv.   | USPAT                           | OR  | OFF | 2006/10/20 09:32 |
| S16<br>0 | 47 | "054,633"   | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2006/10/20 09:32 |
| S16<br>1 | 16 | S138 and (step adj up)  | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2006/10/20 09:32 |
| S16<br>2 | 44 | S142 and (LED or (light adj emitting<br>adj diode))   | US-PGPUB;<br>USPAT;<br>EPO; JPO | OR  | OFF | 2006/10/20 09:32 |
| S16<br>3 | 3  | S143 and (current near (step up))   | US-PGPUB;<br>USPAT;<br>EPO; JPO | ADJ | ON  | 2006/10/20 09:32 |
| S16<br>4 | 21 | ("4172260"   "4218647"  <br>"4408267"   "4430608"   "4450384"<br>  "4575668"   "4672228"  <br>"4908856"   "4914356"   "4920302"<br>  "4988942"   "5036253"  <br>"5041767"   "5144202"   "5148158"<br>  "5150014"   "5154504"  <br>"5155415"   "5164638"   "5182503"<br>  "5194803").PN. | US-PGPUB;<br>USPAT;<br>USOCR    | OR  | OFF | 2006/10/20 09:32 |

## EAST Search History

|          |      |  |   |     |     |                  |
|----------|------|--|---|-----|-----|------------------|
| S16<br>5 | 20   | S144 and (stepup or (step adj up))   | US-PGPUB;<br>USPAT;<br>EPO; JPO           | OR  | OFF | 2006/10/20 09:32 |
| S16<br>6 | 42   | S144 and ((high of higher) adj current)  | US-PGPUB;<br>USPAT;<br>EPO; JPO           | OR  | OFF | 2006/10/20 09:32 |
| S16<br>7 | 23   | ("4211955"   "5160200"   "5160201"   "5567036"   "5806965"   "5921660"   "5929788"   "5947588"   "6220722"   "6234648"   "6371636"   "D385051"   "D404506"   "D405201"   "D434510").PN. OR ("6598996"). URPN.  | US-PGPUB;<br>USPAT;<br>USOCR              | ADJ | ON  | 2006/10/20 09:32 |
| S16<br>8 | 23   | ("4211955"   "5160200"   "5160201"   "5567036"   "5806965"   "5921660"   "5929788"   "5947588"   "6220722"   "6234648"   "6371636"   "D385051"   "D404506"   "D405201"   "D434510").PN. OR ("6598996"). URPN.  | US-PGPUB;<br>USPAT;<br>USOCR              | ADJ | ON  | 2006/10/20 09:32 |
| S16<br>9 | 193  | ((362/800).CCLS.) and ((362/488, 494,545).CCLS.)   | USPAT                                     | OR  | OFF | 2006/10/20 09:32 |
| S17<br>0 | 121  | ((362/800).CCLS.) and (high adj power)   | USPAT                                     | OR  | OFF | 2006/10/20 09:32 |
| S17<br>1 | 192  | step down dc-dc converter  | US-PGPUB;<br>USPAT;<br>EPO; JPO           | ADJ | ON  | 2006/10/20 09:32 |
| S17<br>2 | 304  | ((362/800).CCLS.) and aluminum   | USPAT                                     | OR  | OFF | 2006/10/20 09:32 |
| S17<br>3 | 1510 | (362/800).CCLS.  | USPAT;<br>USOCR                           | OR  | OFF | 2006/10/20 09:32 |
| S17<br>4 | 463  | S173 and (reflector or reflectors or mirror or mirrors or (reflective (member or members or plane or planes or surface or surfaces or element or elements or plate or plates))) and (refractor or refractors or lens or lenses or ((optical or translucent or translucent or transparent or (optically active)) (element or member or component or device))) | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | ADJ | ON  | 2006/10/20 09:32 |
| S17<br>5 | 685  | (362/545).CCLS.  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR  | OFF | 2006/10/20 09:32 |



## EAST Search History

|          |     |  |   |     |    |                  |
|----------|-----|--|---|-----|----|------------------|
| S17<br>6 | 337 | S175 and (reflector or reflectors or mirror or mirrors or (reflective (member or members or plane or planes or surface or surfaces or element or elements or plate or plates))) and (refractor or refractors or lens or lenses or ((optical or translucent or translucent or transparent or (optically active)) (element or member or component or device)))   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | ADJ | ON | 2006/10/20 09:32 |
| S17<br>7 | 714 | (S173 or S175) and (reflector or reflectors or mirror or mirrors or (reflective (member or members or plane or planes or surface or surfaces or element or elements or plate or plates))) and (refractor or refractors or lens or lenses or ((optical or translucent or translucent or transparent or (optically active)) (element or member or component or device)))   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | ADJ | ON | 2006/10/20 09:32 |
| S17<br>8 | 39  | ((LED or LEDs or (L E D) or (light (emitting or producing or generating or radiating) (diode or diodes or device or devices or element or elements or semiconductor or (semi conductor) or (circuit element)))) and (housing or housin or housed or casing or casin or case or shell or container or box or boxes or enclosure or enclosures or cover or covers) and (refractor or refractors or lens or lenses or ((optical or translucent or translucent or transparent or (optically active)) (element or member or component or device))) and (reflector or reflectors or mirror or mirrors or (reflective (member or members or plane or planes or surface or surfaces or element or elements or plate or plates))) and (heat (sink or ((extracting or conducting or dissipating or transporting or radiating) (fin or protrusion or projection or element or member or spike or tubes or fingers or portion or pillars or plate)) or plate))).clm. | US-PGPUB                                  | ADJ | ON | 2006/10/20 10:35 |

## EAST Search History

|          |      |  |   |     |    |                  |
|----------|------|--|---|-----|----|------------------|
| S17<br>9 | 2778 | ((LED or LEDs or (L E D) or (light (emitting or producing or generating or radiating) (diode or diodes or device or devices or element or elements or semiconductor or (semi conductor) or (circuit element)))) and (housing or housin or housed or casing or casin or case or shell or container or box or boxes or enclosure or enclosures or cover or covers) and (refractor or refractors or lens or lenses or ((optical or transluscent or translucent or transparent or (optically active)) (element or member or component or device))) and (reflector or reflectors or mirror or mirrors or (reflective (member or members or plane or planes or surface or surfaces or element or elements or plate or plates))) and (heat (sink or ((extracting or conducting or dissipating or transporting or radiating) (fin or protrusion or projection or element or member or spike or tubes or fingers or portion or pillars or plate)) or plate))) | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | ADJ | ON | 2006/10/20 10:39 |
| S18<br>0 | 678  | S179 and @pd<"20020122"  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | ADJ | ON | 2006/10/20 10:41 |